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Version 1.0A

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1

Introducing the Motherboard

Describes features of the motherboard.

Go to ⇨ page 1

Chapter 2

Installing the Motherboard

Describes installation of motherboard components.

Go to ⇨ page 7

Chapter 3

Using BIOS

Provides information on using the BIOS Setup Utility.

Go to ⇨ page 23

Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to ⇨ page 41

Chapter 5

Trouble Shooting

Provides basic trouble shooting tips

Go to ⇨ page 45

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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the H61H-G11 motherboard. This motherboard is a high performance, enhanced function motherboard designed to support the LGA1155 socket for Intel® 2nd/3rd Generation Core™ processors for high-end business or personal desktop markets.

This motherboard is based on Intel® H61 Express Chipset for best desktop platform solution. H61 is a single-chip, highly integrated, high performance Hyper-Threading peripheral controller, unmatched by any other single chip-device controller. This motherboard supports up to 8 GB of system memory with dual channel DDR3 1333/1066 SO-DIMM. One Mini PCI Express slot is supported, which supports half-card. It implements an EHCI (Enhanced Host Controller Interface) compliant interface that provides six USB 2.0 ports (four USB 2.0 ports at the back panel and one USB 2.0 header support additional two USB 2.0 ports).

The motherboard is equipped with advanced full set of I/O ports in the rear panel, including one HDMI port, one DC-IN port, one Lan port, four USB 2.0 ports, and audio jacks for microphone and line-out.

In addition, this motherboard supports two SATA 3.0Gb/s connectors for expansion.

Feature

Processor

The motherboard uses a LGA1155 type of socket that carries the following features:

- Accommodates Intel® 2nd/3rd Generation Core™ processors
- Supports "Hyper-Threading" technology CPU

"Hyper-Threading" technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate "logical" processors within the same physical processor.

Chipset

The Intel® H61 Chipset is a single-chip with proven reliability and performance.

- Support one Mini PCI Express slot (supports half-card)
- Integrated two SATA 3.0 Gb/s Host Controller
- Six USB 2.0 ports supported
- Serial Peripheral Interface (SPI) support
- Integrated Graphics Support with PAVP 1.5
- Intel® High Definition Audio Controller

Memory

- Supports DDR3 1333/1066 DDR3 SO-DIMM with Dual-channel architecture
- Accommodates two unbuffered SO-DIMMs
- Up to 4 GB per SO-DIMM with maximum memory size up to 8 GB

Audio

- 5.1+2 Channel High Definition Audio Codec
- Meets Microsoft WLP3.x (Windows Logo Program) audio requirements
- All DACs supports 44.1k/48k/96k/192kHz sample rate
- Software selectable 2.5V/3.2V/4.0V VREFOUT
- Direct Sound 3D. compatible
- Power Support: Digital: 3.3V; Analog: 5.0V

Giga LAN (Optional)

The onboard LAN provides the following features:

- Supports PCI Express™ 1.1
- Integrated 10/100/1000 transceiver
- Wake-on-LAN and remote wake-up support

Expansion Options

The motherboard comes with the following expansion options:

- One Mini PCI Express slot (supports half-card)
- Two SATA 3.0 Gb/s connectors

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- One LAN port
- One HDMI port
- Four USB 2.0 ports
- One DC-IN port
- Audio jacks for microphone and line-out

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memory timing
- Graphic parameters

The firmware can also be used to set parameters for different processor clock speeds.

1. Some hardware specifications and software items are subject to change without prior notice.

2. Due to chipset limitation, we recommend that motherboard be operated in the ambiance between 0 and 50 ° C.

Specifications

CPU	•	LGA1155 socket for Intel® 2nd/3rd Generation Core™ processors
	•	Supports “Hyper-Threading” technology CPU
	•	DMI 2.0GT/s
Chipset	•	Intel® H61 Chipset
Memory	•	Dual-channel DDR3 memory architecture
	•	2 x 240-pin DDR3 SO-DIMM sockets support up to 8 GB
	•	Supports 1333/1066 DDR3 SO-DIMM
Expansion Slot	•	1 x Mini PCI Express slot (supports half-card)
Storage	•	Supported by Intel® H61 Express Chipset - SATA * 2 3.0 Gb/s devices
Audio	•	Realtek ALC662GR 5-Ch High Definition audio CODEC
LAN	•	Realtek 8111E Giga Lan
Rear Panel I/O	•	4 x USB 2.0 ports
	•	1 x DC-IN port
	•	1 x HDMI port
	•	1 x RJ45 LAN connector
	•	2 x Audio port (microphone in, line out)
Internal I/O Connectors & Headers	•	1 x 4-pin CPU_FAN connector
	•	1 x 4-pin SYS_FAN connector
	•	1 x Front panel audio header
	•	1 x Front panel switch/LED header
	•	1 x Speaker header
	•	2 x Serial SATA 3.0 Gb/s connectors
	•	1 x USB 2.0 header support additional two USB 2.0 ports
	•	1 x Clear CMOS header
	•	1 x LVDS connector
	•	1 x Inverter/converter
	•	1 x ME_UNLOCK header
System BIOS	•	AMI BIOS with 32Mb SPI Flash ROM
	•	Supports Plug and Play, STR (S3)/STD (S4)
	•	Hardware monitor, Multi Boot
	•	Supports ACPI & DMI
	•	Audio, LAN, can be disabled in BIOS
Form Factor	•	Thin Mini-ITX Size, 170mm x 170mm

Motherboard Components

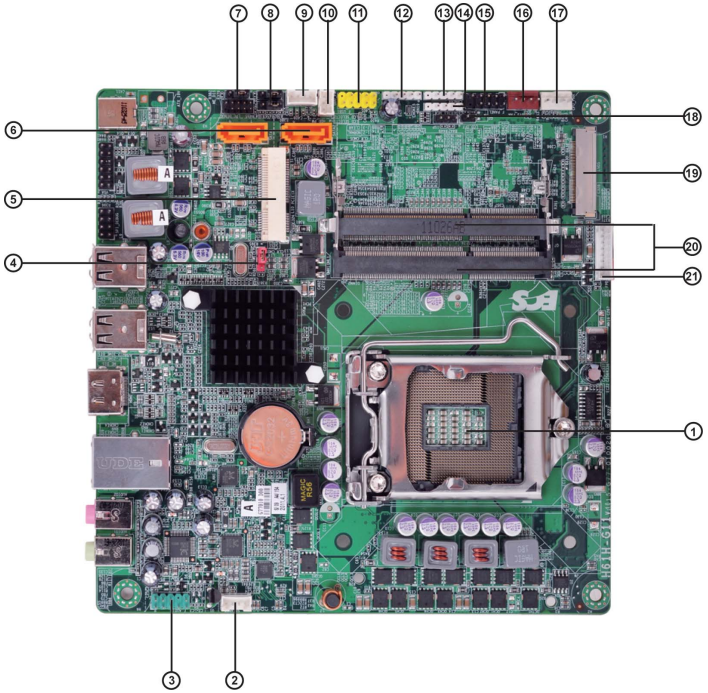


Table of Motherboard Components

LABEL	COMPONENTS
1. CPU Socket	LGA1155 socket for Intel® 2nd/3rd Generation Core™ Processors
2. SPEAKER	Speaker header
3. F_AUDIO	Front panel audio header
4. CLR_CMOS	Clear CMOS jumper
5. MINI-PCIE1X	Mini PCI Express x1 slot (supports half-card)
6. SATA1~2	Serial ATA 3.0 Gb/s connectors
7. LCD_SEL1~2	LCD select jumpers
8. ME_DISABLE	ME disable jumper
9. HDD_PW	HDD power connector
10. ODD_PW	ODD power connector
11. F_USB1	Front panel USB 2.0 header
12. TS	Touch board header
13. CAMERA	CCD header
14. MCR	Card reader header
15. F_PANEL	Front panel switch/LED header
16. SYS_FAN	3-pin system cooling fan connector
17. CPU_FAN	4-pin CPU cooling fan connector
18. LCD_OFF	Panel switch
19. LVDS	LVDS header (optional)
20. SO-DIMM1~2	240-pin DDR3 SO-DIMM sockets
21. FPD	FPD power connector

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Chapter 2
Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Thin Mini ITX system case. Some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

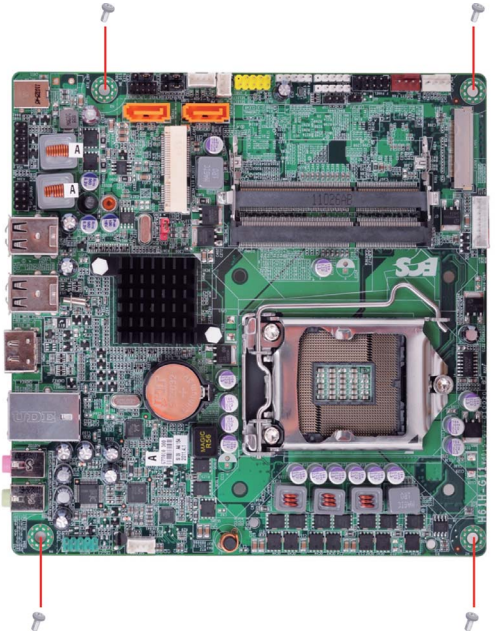
This motherboard carries a Thin Mini ITX form factor of 170 x 170 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

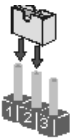
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

SHORT

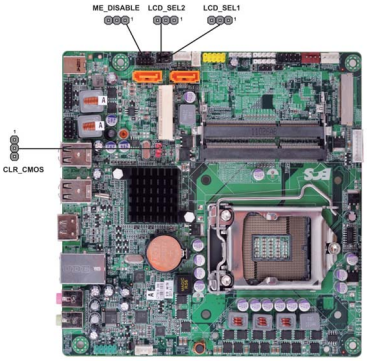
OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.



Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	Clear CMOS	1-2: NORMAL 2-3: CLEAR Before clearing the CMOS, make sure to turn off the system.	1 **CLR_CMOS**
ME_DISABLE	3-pin	Disable ME	1-2: ME ENABLE 2-3: ME DISABLE	1 **ME_ENABLE**
LCD_SEL1	3-pin	SELECT LCD	1-2: 21.5'' AUO M215HW03	1 **LCD_SEL1**
LCD_SEL2			1-2: 21.5'' AUO M215HW03	1 **LCD_SEL2**
LCD_SEL1	3-pin	SELECT LCD	2-3: 21.5'' CPT CLAA215FAO4	1 **LCD_SEL1**
LCD_SEL2			1-2: 21.5'' CPT CLAA215FAO4	1 **LCD_SEL2**
LCD_SEL1	3-pin	SELECT LCD	1-2: 21.5'' BOE HT215F01-100	1 **LCD_SEL1**
LCD_SEL2			2-3: 21.5'' BOE HT215F01-100	1 **LCD_SEL2**
LCD_SEL1	3-pin	SELECT LCD	2-3: 23.6'' CMO M236HGE-L20	1 **LCD_SEL1**
LCD_SEL2			2-3: 23.6'' CMO M236HGE-L20	1 **LCD_SEL2**

To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Default Settings" and then "Save and Exit Setup".

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

Warning:

1. Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

2. Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.

This motherboard has an LGA1155 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

Fail-Safe Procedures for Over-clocking

When end-users encounter failure after attempting over-clocking, please take the following steps to recover from it.

1. Shut down the computer.

2. Press and hold the "Page Up Key (PgUp)" of the keyboard, and then boot the PC up.

3. Two seconds after the PC boots up, release the "Page Up Key (PgUp)".

4. The BIOS returns to the default setting by itself.

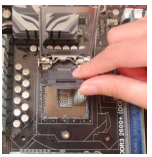
CPU Installation Procedure

The following illustration shows CPU installation components.

A. Disengaging of the Load Lever
- Press the hook of lever down and pull it to the right side to release it from retention tab.

B. Opening of the Load Plate
- Lift the tail of the load lever.
- Rotate the load plate to fully open position.

C. Removing the Cap
- Be careful not to touch the contact at any time.



D. Inserting the Package
- Grasp the package. Ensure to grasp on the edge of the substrate.
- Make sure pin 1 indicator is on your bottom-left side.
- Aim at the socket and place the package carefully into the socket by purely vertical motion.

E. Closing the Load Plate
- Rotate the load plate onto the package IHS (Intergraded Heat Spreader).
- Engage the load lever while pressing down lightly onto the load plate.
- Secure the load lever with the hook under retention tab.

F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

G. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.

1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.

2. DO NOT remove the CPU cap from the socket before installing a CPU.

3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA1155 socket.

Installing Memory Modules

This motherboard accommodates two memory modules. It can support two 240-pin DDR3 1333/1066 SDRAM. The total memory capacity is 8 GB.

DDR3 SDRAM memory module table

Memory module	Memory Bus
DDR3 1066	*533 MHz*
DDR3 1333	*667 MHz*

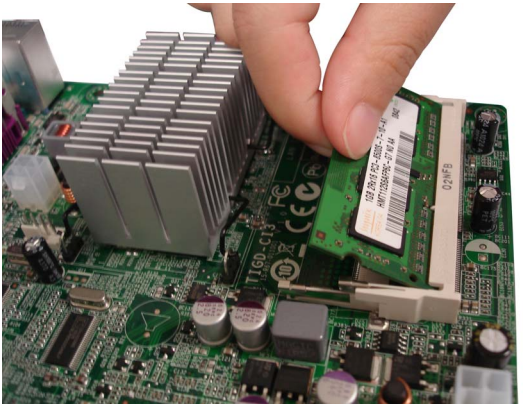
You must install at least one module in any of the two slots. Total memory capacity is 8 GB.

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

1. This motherboard supports unbuffered DDR3 SDRAM .
2. Push the latches on each side of the SO-DIMM slot down.
3. Align the memory module with the slot. The SO-DIMM slots are keyed with notches and the SO-DIMMs are keyed with cutouts so that they can only be installed correctly.
4. Check that the cutouts on the SO-DIMM module edge connector match the notches in the SO-DIMM slot.
5. Install the SO-DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the SO-DIMM.
6. Install any remaining SO-DIMM modules.

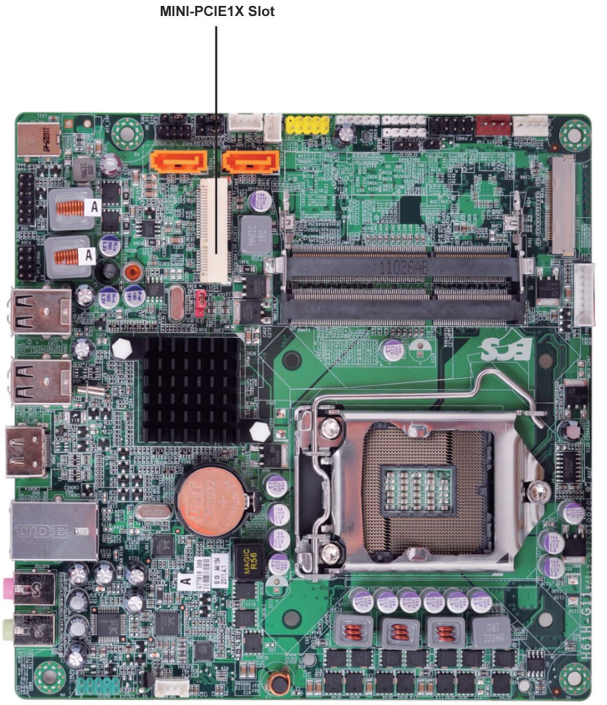


** For reference only*

Expansion Slots

Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



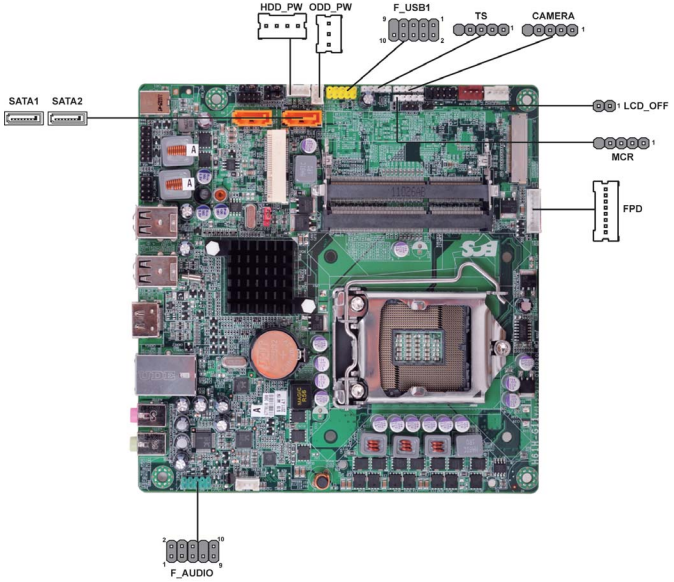
MINI-PCIE1X Slot

The Mini PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 2.0, it can support half-card.

Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



F_AUDIO: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Pin	Signal Name
1	PORT 1L	2	AUD_GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	SENSE1_RETURN
7	SENSE_SEND	8	KEY
9	PORT 2L	10	SENSE2_RETURN

SATA1~2: Serial ATA connectors

These connectors are used to support the Serial ATA 3.0Gb/s device, simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and sofeware compatibility with Prallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

F_USB1: Front Panel USB header

The motherboard has one USB 2.0 header supporting two USB 2.0 ports. Additionally, some computer cases have USB 2.0 ports at the front of the case. If you have this kind of case, use auxiliary USB 2.0 connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	NC	Not connected

Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

FPD: FPD power connector

The motherboard must provide additional power for the internal flat panel display (both panel and backlight inverter) via an FPD power connector.

Pin	Signal Name	Function
1	BKLT_EN	Backlight enable
2	BKLT_PWM	Backlight control
3	BKLT_PWR	Backlight inverter power
4	BKLT_PWR	Backlight inverter power
5	BKLT_GND/Brightness_GND	Ground (shared)
6	BKLT_GND/Brightness_GND	Ground (shared)
7	Brightness_UP	Panel brightness increase
8	Brightness_DOWN	Panel brightness decrease

HDD_PW: HDD power connector

This connector is used to provide power for the HDD.

Pin	Signal Name
1	+12V
2	+5V
3	+3.3V
4	GND

ODD_PW: ODD power connector

This connector is used to provide power for the 0DD.

Pin	Signal Name
1	+5V
2	+5V
3	GND

TS: Touch board header

Pin	Signal Name
1	+5V
2	USB_N
3	USB_P
4	GND
5	Key

CAMERA: CCD header

Pin	Signal Name
1	+5V
2	USB_N
3	USB_P
4	GND
5	Key

MCR: Card reader header

Pin	Signal Name
1	+5V
2	USB_N
3	USB_P
4	GND
5	Key

LCD_OFF: Panel switch

This connector is used to provide power for the 0DD.

Pin	Signal Name
1	PWRDN
2	GND

Installing a SATA Hard Drive

This section describes how to install a SATA Hard Drive.

About SATA Connectors

Your motherboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

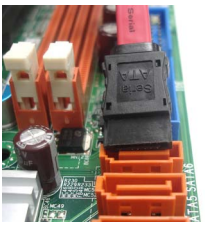
To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with a SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

SATA cable (optional)

SATA power cable (optional)

Refer to the illustration below for proper installation:

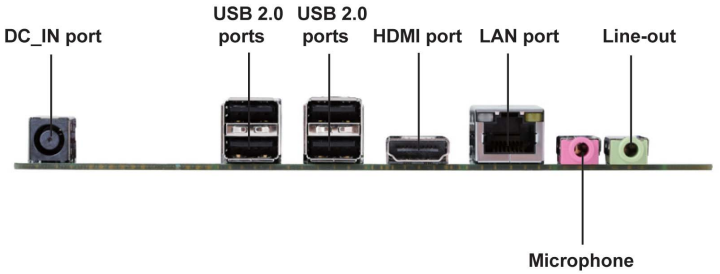
1. Attach either cable end to the connector on the motherboard.
2. Attach the other cable end to the SATA hard drive.
3. Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



** For reference only*

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:



DC_IN Port Connect the DC_IN port to the power adapter.

USB 2.0 Ports Use the USB 2.0 ports to connect USB 2.0 devices.

HDMI Port Connect the HDMI port to the HDMI devices.

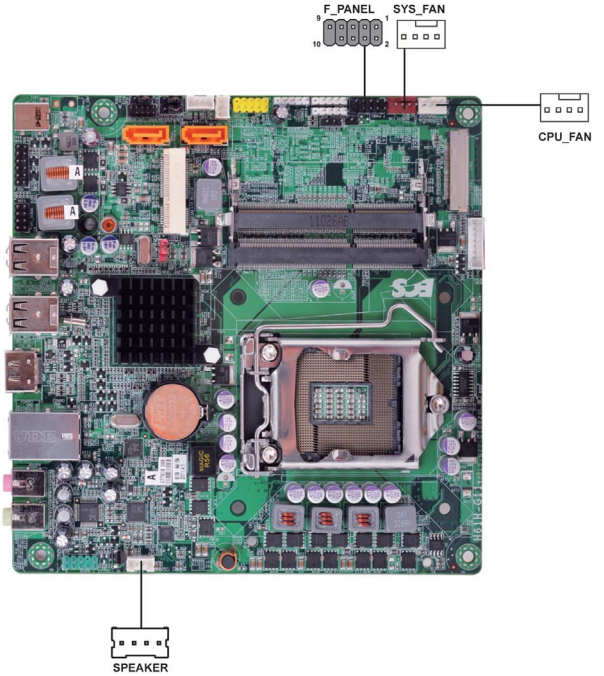
LAN Port Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

Audio Ports Use the two audio ports to connect audio devices. The left jack is for microphone. The right jack is for stereo line-out singal.

Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1 Connect the CPU cooling fan cable to **CPU_FAN**.
2 Connect the case switches and indicator LEDs to the **F_PANEL**.
3 Connect the system cooling fan connector to **SYS_FAN**.
4 Connect the case speaker cable to **SPEAKER**.



CPU_FAN: CPU cooling FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	PWM

Users please note that the fan connector supports the CPU cooling fan of 1.1A ~ 2.2A (26.4W max) at +12V.

SYS_FAN: System Cooling FAN Power Connectors

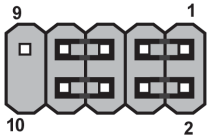
Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	PWM

SPEAKER: Internal speaker

Pin	Signal Name
1	Front_L-
2	Front_L+
3	Front_R+
4	Front_R-

Front Panel Header

The front panel header (F_PANEL) provides a standard set of switch and LED headers commonly found on ATX or Micro ATX cases. Refer to the table below for information:



F_PANEL

Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	+5V_DC	10	Key	No pin

** MSG LED (dual color or single color)*

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

This concludes Chapter 2. The next chapter covers the BIOS.

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest "American Megatrends Inc." BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

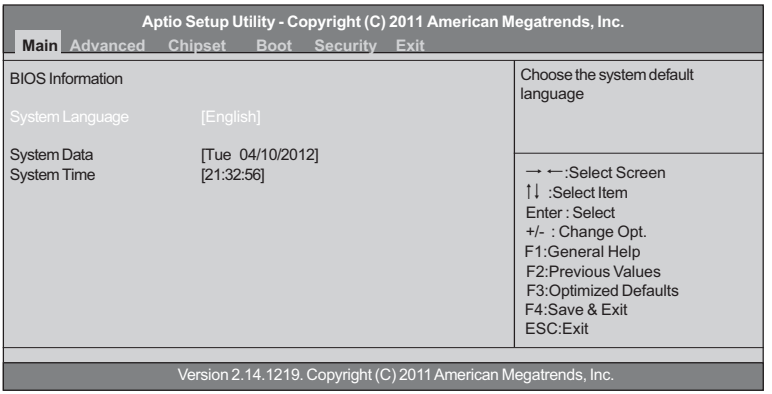
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Press the delete key to access BIOS Setup Utility.



Resetting the Default CMOS Values

When powering on for the first time, the POST screen may show a "CMOS Settings Wrong" message. This standard message will appear following a clear CMOS data at factory by the manufacturer. You simply need to Load Default Settings to reset the default CMOS values.

Note: Changes to system hardware such as different CPU, memories, etc. may also trigger this message.

American Megatrends
H61H-G11 Release 03/13/2012
Version 2.02.1205. Copyright (C) 2010 American Megatrends, Inc.
Press <F7> to enter BBS POPUP
Press <DEL> or <F2> to enter setup.
CMOS Settings Wrong

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

The default BIOS setting for this motherboard apply for most conditions with optimum performance. We do not suggest users change the default values in the BIOS setup and take no responsibility to any damage caused by changing the BIOS settings.

BIOS Navigation Keys

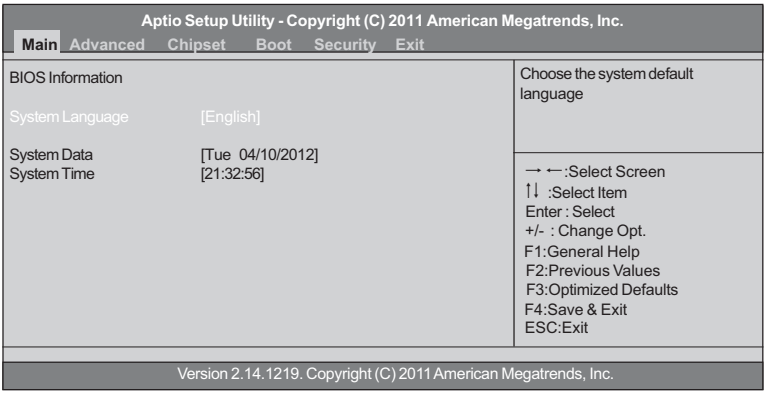
The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
↑↓→←	Scrolls through the items on a menu
+/-	Modifies the selected field's values
Enter	Select
F1	General Help
F2	Previous Value
F3	Optimized Defaults
F4	Save & Exit

For the purpose of better product maintenance, the manufacture reserves the right to change the BIOS items presented in this manual. The BIOS setup screens shown in this chapter are for reference only and may differ from the actual BIOS. Please visit the manufacture's website for updated manual.

Main Menu

When you enter the BIOS Setup program, the main menu appears, giving you an overview of the basic system information. Select an item and press <Enter> to display the submenu.



System Language

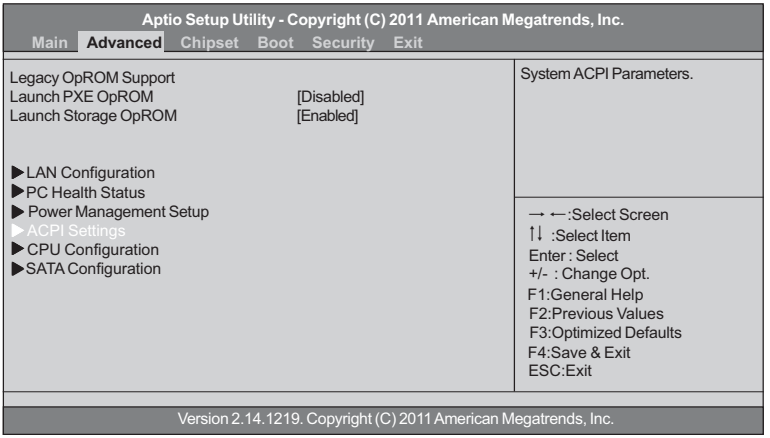
This item is used to set system language.

System Date & Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system.



Launch PXE OpROM (Disabled)

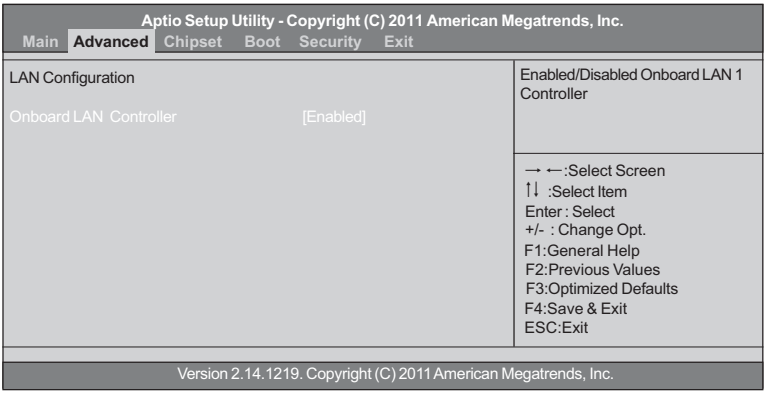
Use this item to enable or disable the PXE OpROM.

Launch Storage OpROM (Enabled)

Use this item to enable or disable the Storage OpROM.

▶LAN Configuration

The item in the menu shows the LAN-related information that the BIOS automatically detects.



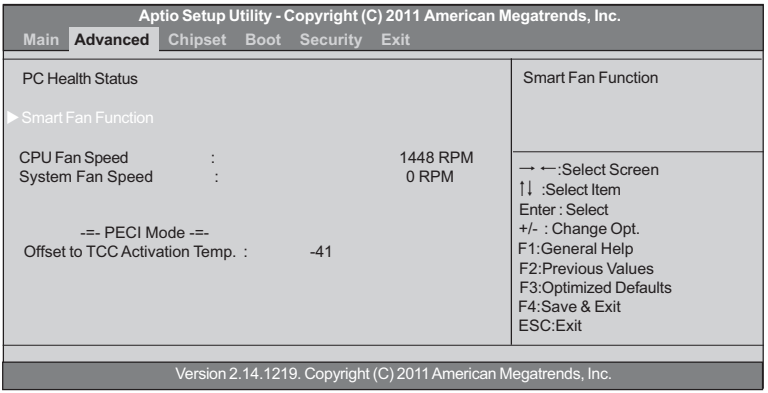
Onboard LAN Controller (Enabled)

Use this item to enable or disable the Onboard LAN.

Press <Esc> to return to the Advanced Menu page.

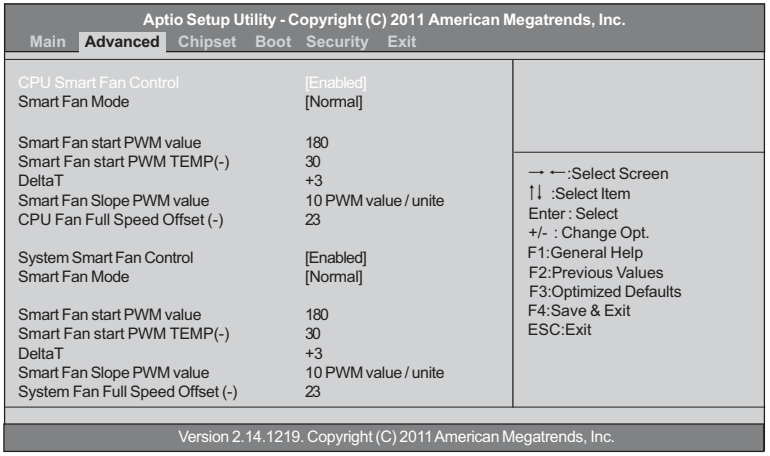
►PC Health Status

On motherboards support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Exit
PC Health Status
► Smart Fan Function
CPU Fan Speed : 1448 RPM
System Fan Speed : 0 RPM
-=- PECI Mode -=-
Offset to TCC Activation Temp. : -41
Smart Fan Function
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

►Smart Fan Function

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Exit
CPU Smart Fan Control [Enabled]
Smart Fan Mode [Normal]
Smart Fan start PWM value 180
Smart Fan start PWM TEMP(-) 30
DeltaT +3
Smart Fan Slope PWM value 10 PWM value / unite
CPU Fan Full Speed Offset (-) 23
System Smart Fan Control [Enabled]
Smart Fan Mode [Normal]
Smart Fan start PWM value 180
Smart Fan start PWM TEMP(-) 30
DeltaT +3
Smart Fan Slope PWM value 10 PWM value / unite
System Fan Full Speed Offset (-) 23
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
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CPU Smart Fan Control (Enabled)

This item allows you to enable/disable the control of the CPU fan speed by chang-ing the fan voltage.

Smart Fan Mode (Normal)

This item allows you to select the fan mode (Normal, Quiet, Silent, or Manual) for a better operation environment. If you choose Normal mode, the fan speed will be auto adjusted depending on the CPU temperature. If you choose Quiet mode, the fan speed will be auto minimized for quiet environment. If you choose Silent mode, the fan speed will be auto restricted to make system more quietly. If you choose Manual mode, the fan speed will be adjust depending on users' parameters.

Smart Fan start PWM value (180)

This item is used to set the start PWM value of the smart fan.

Smart Fan start PWM TEMP(-) (30)

This item is used to set the start temperature of the smart fan.

DeltaT (+3)

This item specifies the range that controls CPU temperature and keeps it from going so high or so low when smart fan works.

Smart Fan Slope PWM value (10 PWM value / unite)

This item is used to set the Slope Select PWM of the smart fan.

System Smart Fan Control (Enabled)

This item allows you to enable/disable the control of the system fan speed by changing the fan voltage.

CPU Fan Full Speed Offset(-) (23)

This item is used to set the CPU fan full speed offset value.

System Fan Full Speed Offset(-) (23)

This item is used to set the system fan full speed offset value.

Press <Esc> to return to the PC Health Status page.

System Component Characteristics

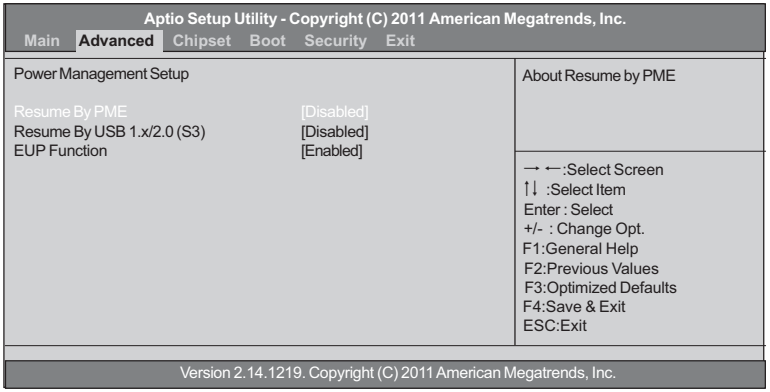
These items display the monitoring of the overall inboard hardware health events, such as System & CPU temperature, CPU & DIMM voltage, CPU & system fan speed...etc.

- CPU Fan Speed
- System Fan Speed

Press <Esc> to return to the Advanced Menu page.

►Power Management Setup

This page sets up some parameters for system power management operation.



Resume By PME (Disabled)

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

Resume By USB 1.x2.0 (S3) (Disabled)

This item allows you to enable/disable the USB device wakeup function from S3 mode.

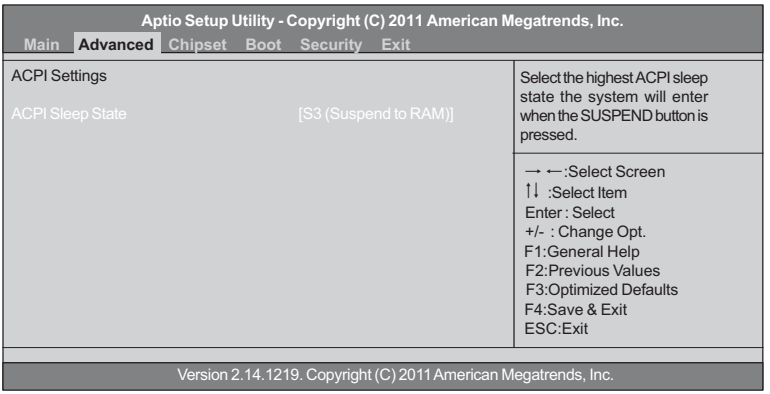
EUP Support (Enabled)

This item allows user to enable or disable EUP support.

Press <Esc> to return to the Advanced Menu page.

▶ACPI Setting

The item in the menu shows the highest ACPI sleep state when the system enters suspend.


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Exit
ACPI Settings
ACPI Sleep State [S3 (Suspend to RAM)]
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
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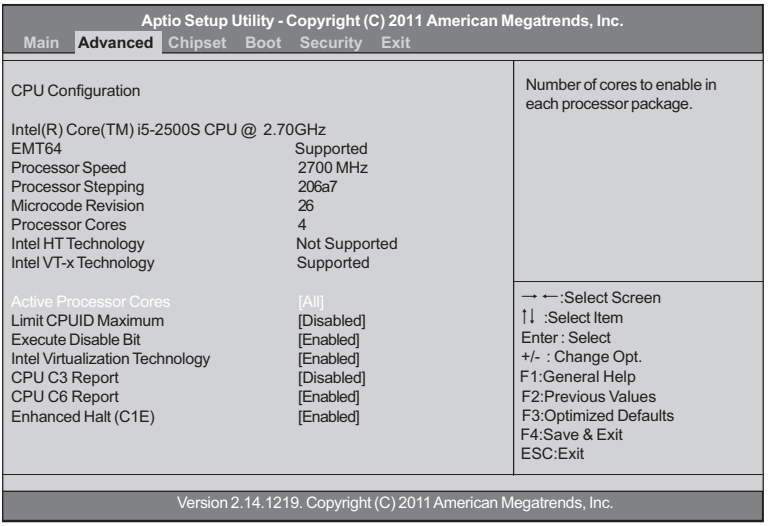
ACPI Sleep State (S3(Suspend to RAM))

This item allows user to enter the ACPI S3 (Suspend toRAM) Sleep State(default).

Press <Esc> to return to the Advanced Menu page.

▶CPU Configuration

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Exit
CPU Configuration
Intel(R) Core(TM) i5-2500S CPU @ 2.70GHz
EMT64 Supported
Processor Speed 2700 MHz
Processor Stepping 206a7
Microcode Revision 26
Processor Cores 4
Intel HT Technology Not Supported
Intel VT-x Technology Supported
Active Processor Cores [All]
Limit CPUID Maximum [Disabled]
Execute Disable Bit [Enabled]
Intel Virtualization Technology [Enabled]
CPU C3 Report [Disabled]
CPU C6 Report [Enabled]
Enhanced Halt (C1E) [Enabled]
Number of cores to enable in each processor package.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
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Intel(R) Core(TM) i5-2500S CPU @ 2.70GHz

This is display-only field and diaplays the information of the CPU installed in your computer.

EMT64 (Supported)

This item shows the computer supports EMT64.

Processor Speed (2700MHz)

This item shows the current processor speed.

Processor Stepping (206a7)

This item shows the processor stepping version.

Microcode Revision (26)

This item shows the Microcode version.

Processor Cores (4)

This item shows the core number of the processor.

Intel HT Technology (Not Supported)

This item shows that your computer supports Intel HT technology or not.

Intel VT-x Technology (Supported)

This item shows that your computer supports Intel VT-x technology or not.

Active Processor Cores (All)

Use this item to control the active processor cores.

Limit CPUID Maximum (Disabled)

Use this item to enable or disable the maximum CPUID value limit. When supports Prescott and LGA775 CPUs, enables this to prevent the system from "rebooting" when trying to install Windows NT 4.0.

Excute Disable Bit (Enabled)

This item allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation. Replacing older computers with Execute Disable Bit enabled systems can halt worm attacks, reducing the need for virus related repair.

Intel Virtualization Technology (Enabled)

When disabled, a VMM cannot utilize the additional hardware capabilities provided by Vandor Pool Technology.

CPU C3 Report (Disabled)

Use this item to enable or disable the CPU C3 (ACPI C2) report to OS.

CPU C6 report (Enabled)

Use this item to enable or disable the CPU C6 (ACPI C3) report to OS.

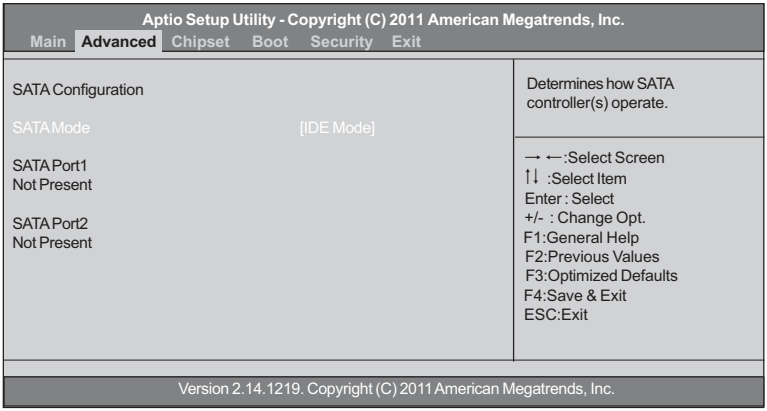
Enhanced Halt (C1E) (Enabled)

Use this item to enable the CPU energy-saving function when the system is not running.

Press <Esc> to return to the Advanced Menu page.

▸SATA Configuration

Use this item to show the mode of serial SATA configuration options.



SATA Mode (IDE Mode)

Use this item to select SATA mode.

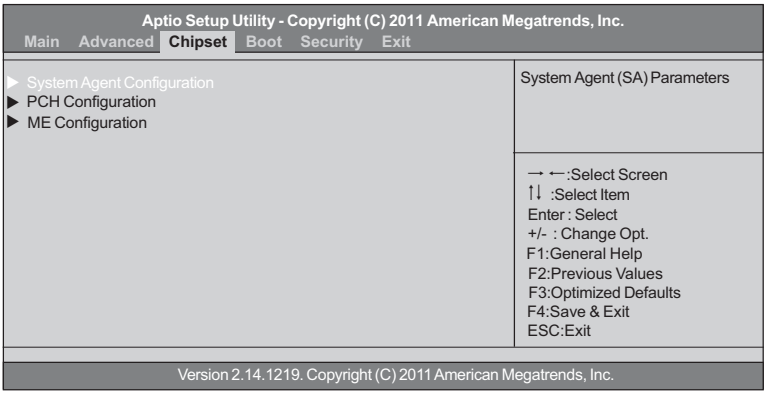
SATA Port 1~2 (Not Present)

This motherboard supports two SATA channel and each channel allows one SATA device to be installed. Use these items to configure each device on the SATA channel.

Press <Esc> to return to the Advanced Menu page.

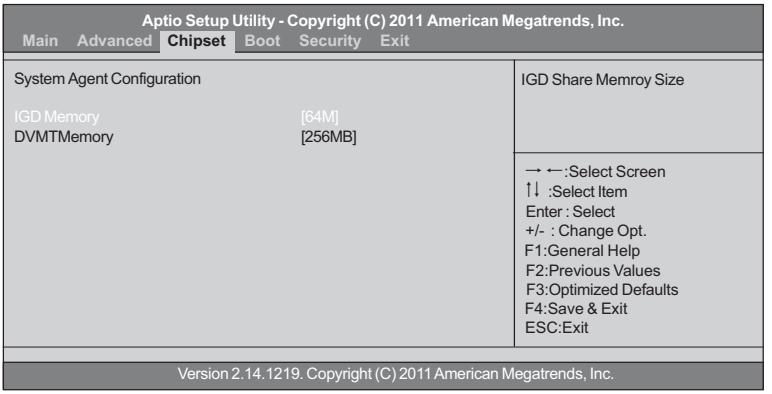
Chipset Menu

The chipset menu items allow you to change the settings for the North chipset, South chipset and other system.



▶ System Agent Configuration

Scroll to this item and press <Enter> and view the following screen:



IGD Memory (64M)

This item shows the information of the IGD(Internal Graphics device) memory.

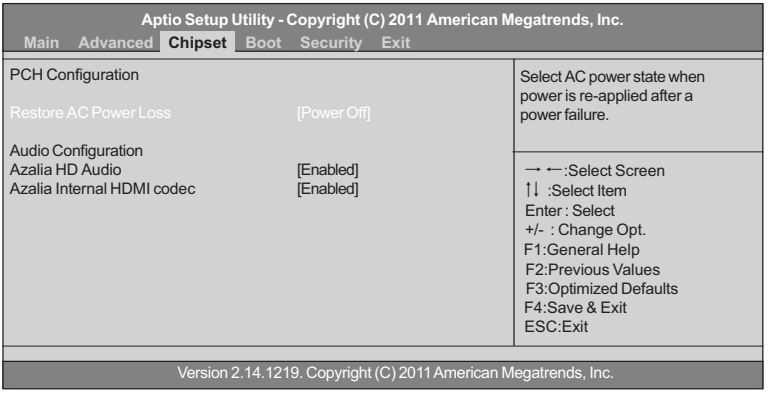
DVMT Memory (256MB)

This item is used to select DVMT5.0 Total Graphics Memory size by the internal Graphics Device.

Press <Esc> to return to the Chipset Menu page.

▶PCH Configuration

Scroll to this item and press <Enter> to view the following screen:


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Exit
PCH Configuration
Restore AC Power Loss [Power Off]
Audio Configuration
Azalia HD Audio [Enabled]
Azalia Internal HDMI codec [Enabled]
Select AC power state when power is re-applied after a power failure.
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Restore AC Power Loss (Power Off)

This item enables your computer to automatically restart or return to its operating status.

Audio Configuration

This item shows the information of the audio configuration.

Azalia HD Audio (Enabled)

This item enables or disables Azalia HD audio.

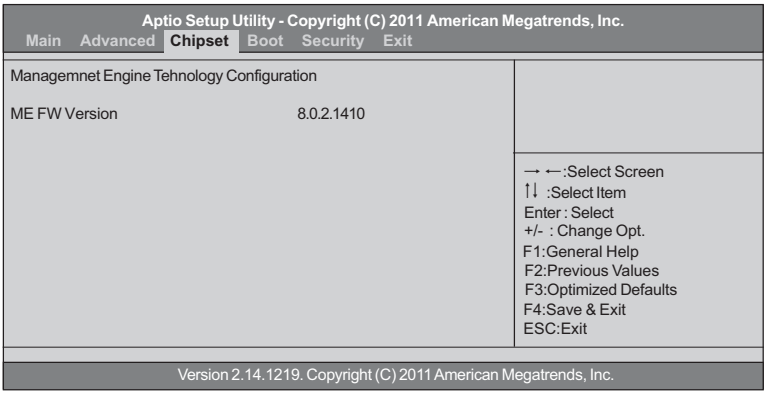
Azalia Internal HDMI codec (Enabled)

This item enables or disables Azaia Internal HDMI codec.

Press <Esc> to return to the Chipset Menu page.

▶ ME Configuration

Scroll to this item and press <Enter> to view the following screen:



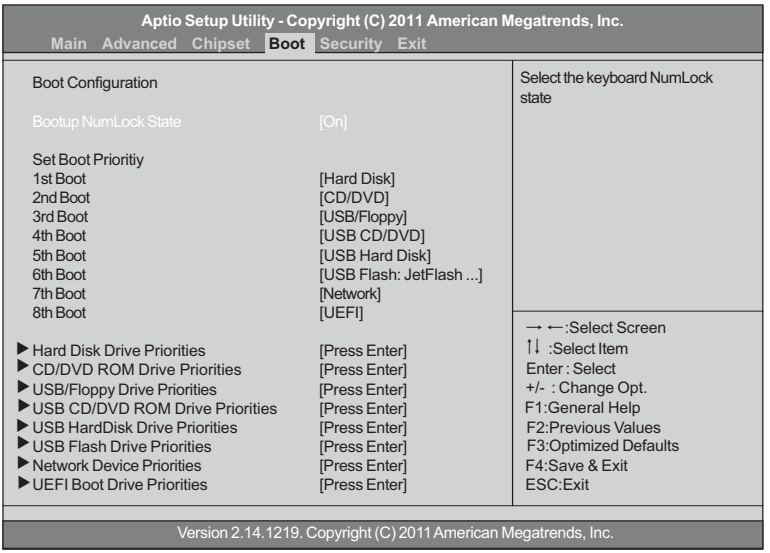
ME FW Version (8.0.2.1410)

This item shows the ME FW version.

Press <Esc> to return to the Chipset Menu page.

Boot Menu

This page enables you to set the keyboard NumLock state.


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Chipset Boot Security Exit
Boot Configuration
Bootup NumLock State [On]
Set Boot Prioritiy
1st Boot [Hard Disk]
2nd Boot [CD/DVD]
3rd Boot [USB/Floppy]
4th Boot [USB CD/DVD]
5th Boot [USB Hard Disk]
6th Boot [USB Flash: JetFlash ...]
7th Boot [Network]
8th Boot [UEFI]
▶ Hard Disk Drive Priorities [Press Enter]
▶ CD/DVD ROM Drive Priorities [Press Enter]
▶ USB/Floppy Drive Priorities [Press Enter]
▶ USB CD/DVD ROM Drive Priorities [Press Enter]
▶ USB HardDisk Drive Priorities [Press Enter]
▶ USB Flash Drive Priorities [Press Enter]
▶ Network Device Priorities [Press Enter]
▶ UEFI Boot Drive Priorities [Press Enter]
Select the keyboard NumLock state
→ ←:Select Screen
↑↓ :Select Item
Enter : Select
+/- : Change Opt.
F1:General Help
F2:Previous Values
F3:Optimized Defaults
F4:Save & Exit
ESC:Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Boot Configuration

This item shows the information of the boot configuration.

Bootup NumLock State (On)

This item determines if the NumLock key is active or inactive at system start-up time.

Set Boot Priority

This item enables you to select boot priority for all boot devices.

1st/2nd/3rd/4th/5th/6th/7th/8th Boot

These items show the boot priorities.

Hard Disk Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing hard disk drives.

CD/DVD ROM Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing CD/DVD ROM drives.

USB/Floppy Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing USB/floppy drives.

USB CD/DVD ROM Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing USB CD/DVD ROM drives.

USB HardDisk Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing USB harddisk drives.

USB Flash Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing USB flash drives.

Network Device Priorities (Press Enter)

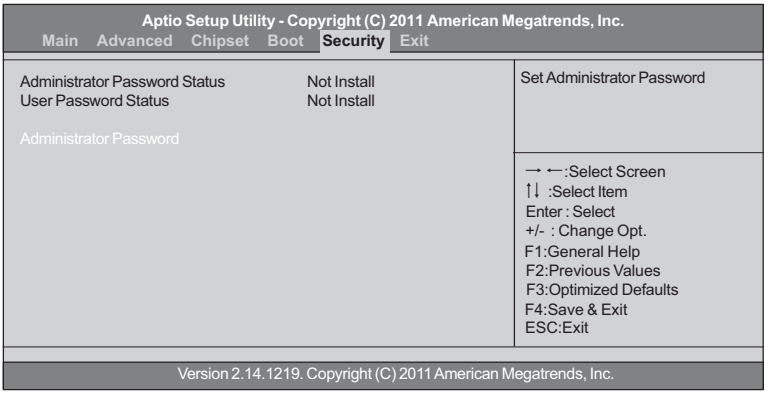
This item enables you to specify the sequence of loading the operating system from the installing network devices.

UEFI Boot Drive Priorities (Press Enter)

This item enables you to specify the sequence of loading the operating system from the installing UEFI Boot drives.

Security Menu

This page enables you to set setup administrator and password.



Administrator Password Status (Not Install)

This item shows administrator password installed or not.

User Password Status (Not Install)

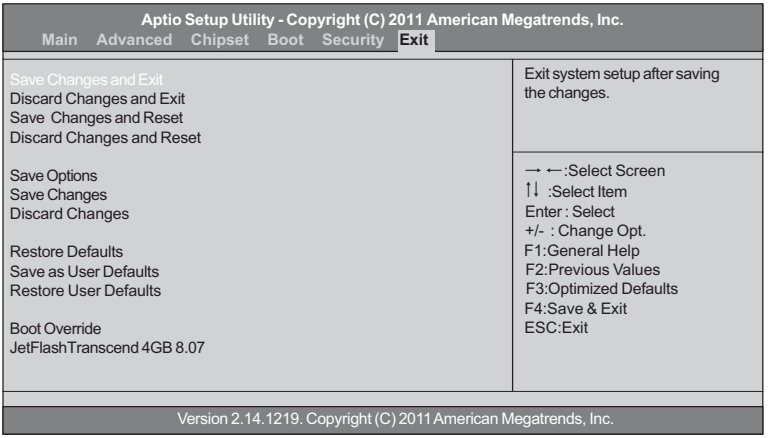
This item shows user password installed or not.

Administrator Password

Press <Enter> to setup administrator password.

Exit Menu

This page enables you to set setup administrator and password.



Save Changes and Exit

This item enables you to save the changes that you have made and exit.

Discard Changes and Exit

This item enables you to discard any changes that you have made and exit.

Save Changes and Reset

This item enables you to save the changes that you have made and reset.

Discard Changes and Reset

This item enables you to discard any changes that you have made and reset.

Save Options

This item enables you to save the options that you have made.

Save Changes

This item enables you to save the changes that you have made.

Discard Changes

This item enables you to discard any changes that you have made.

Restore Defaults

This item enables you to restore the system defaults.

Save as User Defaults

This item enables you to save the changes that you have made as user defaults.

Restore User Defaults

This item enables you to restore user defaults.

Boot Override

Use this item to select the boot device.

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
3. Prepare a bootable device or create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the bootable device.
5. Turn off your computer and insert the bootable device in your computer. (You might need to run the Setup Utility and change the the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the bootable device first.)
6. At the C:\ or A:\ prompt, type the Flash Utility program name and the file name of the new BIOS and then press <Enter>. Example: AFUDOS.EXE 040706.ROM
7. When the installation is complete, remove the bootable device from the computer and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

Chapter 4
Using the Motherboard Software

About the Software DVD-ROM/CD-ROM

The support software DVD-ROM/CD-ROM that is included in the motherboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your motherboard version. More information on some programs is available in a README file, located in the same directory as the software. Before installing any software, always inspect the folder for files named README.TXT or something similar. These files may contain important information that is not included in this manual.

1. Never try to install all software from folder that is not specified for use with your motherboard.

2. The notice of Intel HD Audio Installation (optional): The Intel High Definition audio functionality unexpectedly quits working in Windows Server 2003 Service Pack 1 or Windows XP Professional x64 Edition. Users need to download and install the update packages from the Microsoft Download Center ***"before"*** *installing HD audio driver bundled in the driver disk. Please log on to http://support.microsoft.com/default.aspx?scid=kb;en-us;901105#appliesto for more information.*

Auto-installing under Windows XP/Vista/7

The Auto-install DVD-ROM/CD-ROM makes it easy for you to install the drivers and software for your motherboard.

If the Auto-install DVD-ROM/CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to the Utility Folder Installation Notes later in this chapter.

The support software DVD-ROM/CD-ROM disc loads automatically under Windows XP/Vista/7. When you insert the DVD-ROM/CD-ROM disc in the DVD-ROM/CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.

* *For reference only*

If the opening screen does not appear; double-click the file "setup.exe" in the root directory.

Drivers

Setup	Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.
Utilities	Click the **Utilities** button to display the application software and other software utilities that are available on the disk. Select the sofware you want to install then follow installation procedure.
Browse CD	The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support disk. Before installing the software from Windows Explorer, look for a file named README.TXT or something similar. This file may contain important information to help you install the software correctly. Some software is installed in separate folders for different operating systems. In installing the software, execute a file named SETUP.EXE by double-clicking the file and then following the instructions on the screen.
Exit	The **EXIT** button closes the Auto Setup window.

Utilities

Lists the software utilities that are available on the disk.

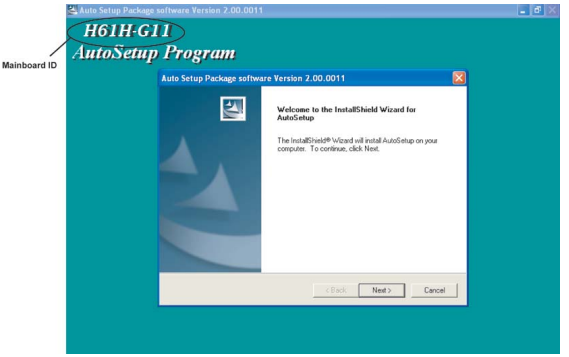
Information

Displays the path for all software and drivers available on the disk.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

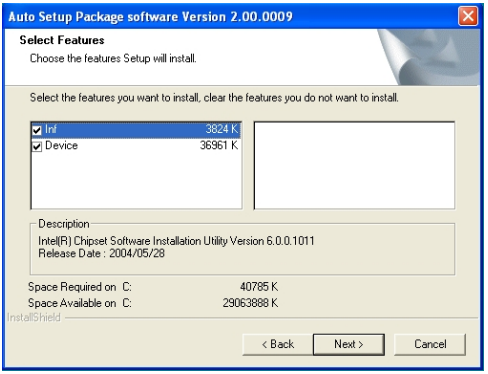
1. *Click **Setup**. The installation program begins:*


Mainboard ID
H61H-G11
AutoSetup Program
Auto Setup Package software Version 2.00.0011
Welcome to the InstallShield Wizard for AutoSetup
The InstallShield® Wizard will install AutoSetup on your computer. To continue, click Next.
< Back
Next >
Cancel

The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

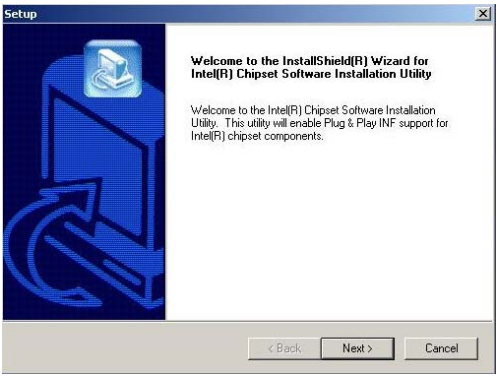
The motherboard identification is located in the upper left-hand corner.

2. *Click **Next.** The following screen appears:*


Auto Setup Package software Version 2.00.0009
Select Features
Choose the features Setup will install.
Select the features you want to install, clear the features you do not want to install.
Inf 3824 K
Device 36961 K
Description
Intel(R) Chipset Software Installation Utility Version 6.0.0.1011
Release Date : 2004/05/28
Space Required on C: 40785 K
Space Available on C: 29063888 K
InstallShield
< Back
Next >
Cancel

3. *Check the box next to the items you want to install. The default options are recommended.*

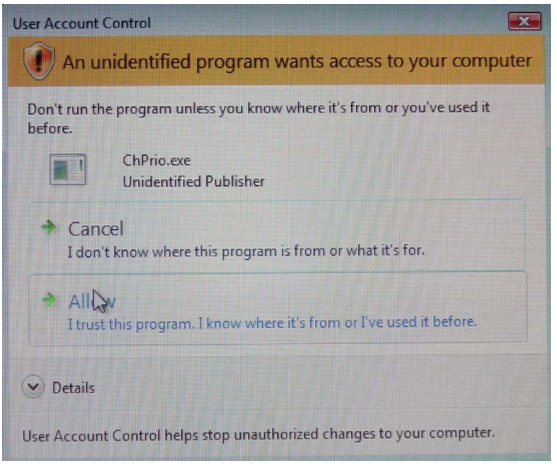
4. *Click **Next** run the Installation Wizard. An item installation screen appears:*


Setup
Welcome to the InstallShield(R) Wizard for Intel(R) Chipset Software Installation Utility
Welcome to the Intel(R) Chipset Software Installation Utility. This utility will enable Plug & Play INF support for Intel(R) chipset components.
< Back
Next >
Cancel

5. *Follow the instructions on the screen to install the items.*

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Windows Vista/7 will appear below UAC (User Account Control) message after the system restart. You must select "Allow" to install the next driver. Continue this process to complete the drivers installation.


User Account Control
An unidentified program wants access to your computer
Don't run the program unless you know where it's from or you've used it before.
ChPrio.exe
Unidentified Publisher
Cancel
I don't know where this program is from or what it's for.
Allow
I trust this program. I know where it's from or I've used it before.
Details
User Account Control helps stop unauthorized changes to your computer.

Manual Installation

Insert the disk in the DVD-ROM/CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

These software(s) are subject to change at anytime without prior notice. Please refer to the support disk for available software.

Chapter 5
Trouble Shooting

Start up problems during assembly

After assembling the PC for the first time you may experience some start up problems. Before calling for technical support or returning for warranty, this chapter may help to address some of the common questions using some basic troubleshooting tips.

a) System does not power up and the fans are not running.

1.Disassemble the PC to remove the VGA adaptor card, DDR memory, LAN, USB and other peripherals including keyboard and mouse. Leave only the motherboard, CPU with CPU cooler and power supply connected. Turn on again to see if the CPU and power supply fans are running.

2. Make sure to remove any unused screws or other metal objects such as screwdrivers from the inside PC case. This is to prevent damage from short circuit.

3. Check the CPU FAN connector is connected to the motherboard.

4. For Intel platforms check the pins on the CPU socket for damage or bent. A bent pin may cause failure to boot and sometimes permanent damage from short circuit.

5. Check the 19V power connector is connected to the motherboard.

6. Check that the 19V power & Thin Mini-ITX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

b) Power is on, fans are running but there is no display

1. Make sure the monitor is turned on and the monitor cable is properly connected to the PC.

2. Check the VGA adapter card (if applicable) is inserted properly.

3. Listen for beep sounds. If you are using internal PC speaker make sure it is connected.
   a. continuous 3 short beeps : memory not detected
   b. 1 long beep and 8 short beeps : VGA not detected

c) The PC suddenly shuts down while booting up.

1. The CPU may experience overheating so it will shutdown to protect itself. Ensure the CPU fan is working properly.

2. From the BIOS setting, try to disable the Smartfan function to let the fan run at default speed. Doing a Load Optimised Default will also disable the Smartfan.

Start up problems after prolong use

After a prolong period of use your PC may experience start up problems again. This may be caused by breakdown of devices connected to the motherboard such as HDD, CPU fan, etc. The following tips may help to revive the PC or identify the cause of failure.

1. Clear the CMOS values using the CLR_CMOS jumper. Refer to CLR_CMOS jumper in Chapter 2 for Checking Jumper Settings in this user manual. When completed, follow up with a Load Optimised Default in the BIOS setup.

2. Check the CPU cooler fan for dust. Long term accumulation of dust will reduce its effectiveness to cool the processor. Clean the cooler or replace a new one if necessary.

3. Check that the 19V power & Thin Mini-ITX connectors are fully inserted into the motherboard connectors. Make sure the latches of the cable and connector are locked into place.

4. Remove the hard drive, optical drive or DDR memory to determine which of these component may be at fault.

Maintenance and care tips

Your computer, like any electrical appliance, requires proper care and maintenance. Here are some basic PC care tips to help prolong the life of the motherboard and keep it running as best as it can.

1. Keep your computer in a well ventilated area. Leave some space between the PC and the wall for sufficient airflow.

2. Keep your computer in a cool dry place. Avoid dusty areas, direct sunlight and areas of high moisture content.

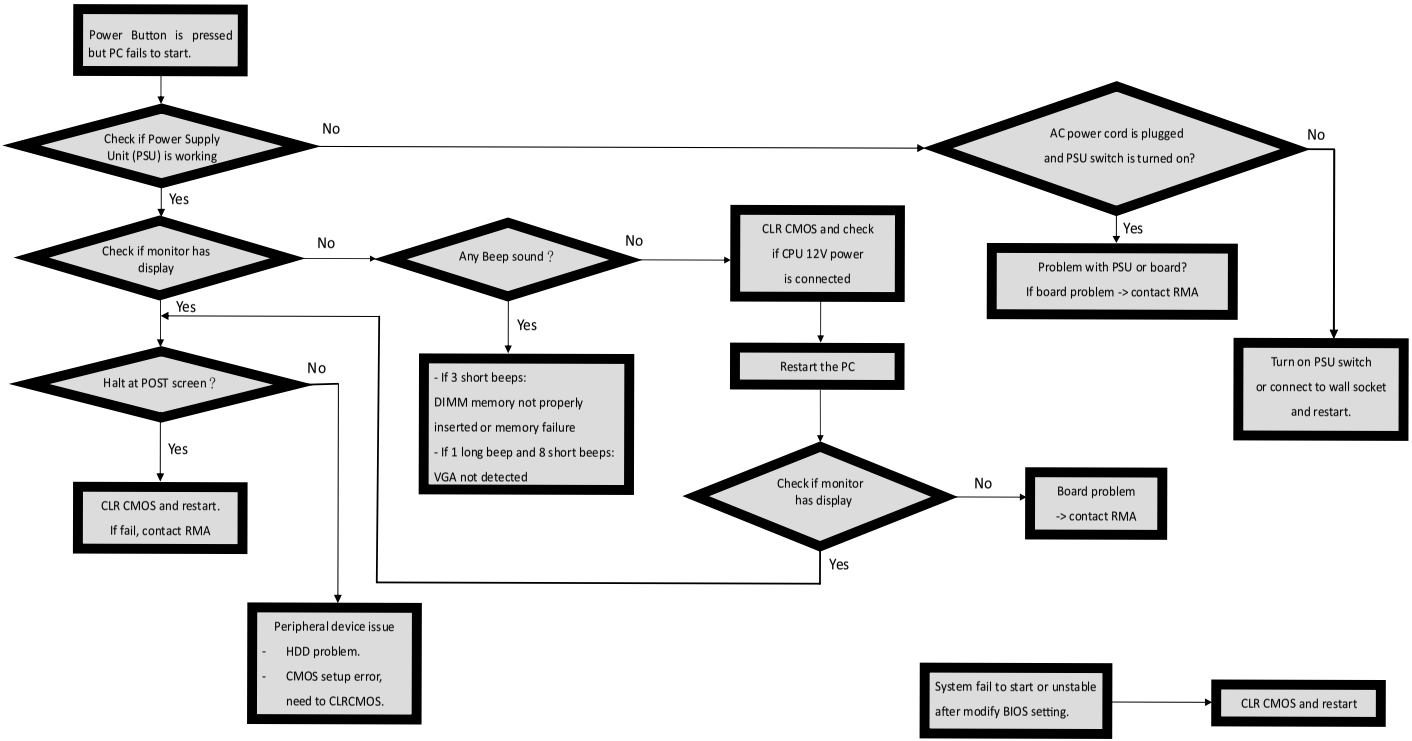
3. Routinely clean the CPU cooler fan to remove dust and hair.

4. In places of hot and humid weather you should turn on your computer once every other week to circulate the air and prevent damage from humidity.

5. Add more memory to your computer if possible. This not only speeds up the system but also reduces the loading of your hard drive to prolong its life span.

6. If possible, ensure the power cord has an earth ground pin directly from the wall outlet. This will reduce voltage fluctuation that may damage sensitive devices.

Basic Troubleshooting Flowchart


Power Button is pressed but PC fails to start.
Check if Power Supply Unit (PSU) is working
No
Yes
AC power cord is plugged and PSU switch is turned on?
No
Yes
Problem with PSU or board? If board problem -> contact RMA
Turn on PSU switch or connect to wall socket and restart.
Check if monitor has display
No
Yes
Any Beep sound ?
No
Yes
CLR CMOS and check if CPU 12V power is connected
Restart the PC
Check if monitor has display
No
Board problem -> contact RMA
Yes
- If 3 short beeps: DIMM memory not properly inserted or memory failure
- If 1 long beep and 8 short beeps: VGA not detected
Halt at POST screen ?
No
Yes
CLR CMOS and restart. If fail, contact RMA
Peripheral device issue
- HDD problem.
- CMOS setup error, need to CLRCMOS.
System fail to start or unstable after modify BIOS setting.
CLR CMOS and restart

Memo